

A. Mitigation

1. Failing to deal with climate change constitutes, not failing to help the grandchildren, but inflicting harm on them.

If climate change were a naturally occurring problem, like some effects of human aging, and we did nothing to deal with it, we would leave the grandchildren facing a problem that was as severe when we bequeathed it as when we inherited it. We would have failed to help - done nothing to make their lives better. That might well be blameworthy, but what we would be guilty of would be a 'sin' of omission: neglecting to provide a benefit that was, let us assume, ours to give if we had chosen.

Failing to deal with climate change is not like that, because the current climate change is not naturally occurring. At some points in the planet's history climate change has occurred naturally, but the climate change happening now is, as the scientists say, anthropogenic: people are causing it, by causing the emission of increasing amounts of greenhouse gases like the CO₂ from the burning of fossil fuels in car engines and electricity-generating plants. Human activities are undermining the environmental conditions to which human beings have successfully adapted, making the future conditions for the grandchildren more threatening than the present conditions are for us. Doing nothing about climate change in the sense of simply continuing business-as-usual is continuing to change the conditions that the grandchildren will face for the worse.¹ To persist in the activities that

¹ For helpful accounts of the current situation, see Benito Müller, *Montreal 2005: What Happened, and What It Means* (Oxford: Oxford Institute for Energy Studies, 2006), EV 35 [February]

make climate change worse, and thereby make living conditions for the grandchildren worse, is not to decline to be helpful. It is to inflict harm, and to inflict it on people who are vulnerable to us and to whom we are invulnerable.² The relationship is entirely asymmetric: they are at our mercy, but we are out of their reach. Causation runs in only one direction through time. Lucky for us.

2. Failing to deal with climate change constitutes inflicting harm on generations who could have been spared.

This, however, is only the beginning. For it is not only that the grandchildren who would be adversely affected by the GHGs that have already been injected into the atmosphere by previous generations since the spread of the Industrial Revolution, fed by fossil fuel, will be more adversely affected than if we managed to get a grip on our fossil-fuel consumption. Yet later generations of great-grandchildren who would have been spared this problem if it had been solved sooner will suffer from it. Suppose that if our generation did whatever it ought to do to stop accelerating climate change, the effects of climate change would have become manageable by Generation *L* of the great-grandchildren. If we do not do what we ought, and everything else remains the same, then at least the next generation, Generation *M*, will suffer from climate change. So, besides making life more difficult for every generation from *A* to *L*, we would have inflicted completely avoidable problems on Generation *M*, which would have been free of

<<http://www.wolfson.ox.ac.uk/~mueller/OCP/publications-mueller.htm>>; also
<http://www.pewclimate.org/what_s_being_done/in_the_world/cop11/index.cfm>;
<http://www.pewclimate.org/what_s_being_done/in_the_states/rggi/rggi.cfm>.

² See Henry Shue, "Responsibility to Future Generations and the Technological Transition," in *Perspectives on Climate Change: Science, Economics, Politics, Ethics*, ed. by Walter Sinnott-Armstrong and Richard B. Howarth (Amsterdam and San Diego: Elsevier, 2005), pp. 265-83.

them if we had restrained our harmful activities, assuming only that tackling the problem sooner means solving it sooner.

This assumption would not be true if, say, some technology needed to mature before it could be successfully applied to climate change and attempts to employ it sooner would be futile.³ If we had reason to believe that was the situation, however, we could, instead of attempting to use the technology before it was ready, be investing in research on alternative technologies rather than simply engaging in our own consumption. Our investment now might allow an intermediate generation still to implement the by-then mature technology in time to save generation *M*. More important, we do not need to develop any new technologies in order simply to cease wasteful and frivolous uses of fossil fuels and to defeat short-sighted politicians who refuse to adopt policies that make the wasteful pay.

3. Failing to deal with climate change constitutes not simply continuing to make it worse but unnecessarily creating opportunities for it to become significantly worse by feeding upon itself through positive feedbacks that would otherwise not have occurred.

Yet we have hardly scratched the surface of the seriousness of continued delay in facing the challenge of climate change. Climate change is dynamic. It involves many poorly understood feedbacks, negative as well as positive. It is conceivable that a continued worsening will trigger a negative feedback, such as an increase in the kinds of clouds that reflect sun-waves back away from the earth, that will actually improve the situation for humans. Formidable uncertainty remains. But some of the best understood

³ Henry Shue, "Legacy of Danger: The Kyoto Protocol and Future Generations," in *Globalisation and Equality*, ed. by Keith Horton and Haig Patapan (London and New York: Routledge, 2004), pp. 164-78.

and most likely feedbacks are positive, compounding the problem. For example, if emissions of CO₂ cause the Arctic tundra to thaw, as they appear well on the way to doing, the thawing tundra will release vast amounts of methane, which is a far more powerful GHG than CO₂ and will make climate change significantly more severe than it would have been if the tundra had not thawed.

Uncertainty cannot be ignored. The opportunities we create for net positive feedbacks to occur may not be taken, or the positive feedback may be more than cancelled out by some more dimly foreseeable negative feedback. But it still seems wrong, without very good reason, to create the opportunity. If I play Russian roulette with your head and the hammer falls on an empty chamber, I will have done you no physical harm. But I will have seriously wronged you by subjecting you to that unnecessary risk.⁴ We do no wrong when we unavoidably inflict risks on the great-grandchildren, or even perhaps if we have compelling reasons for doing so. But we do wrong them if we subject them to opportunities for matters to worsen severely for no good reason except that we could not be bothered to change our comfortable habits. We can be justified in imposing a risk on others when the harm to ourselves from avoiding the risk to them would be severe -- perhaps, even if it would only be significant -- but not when avoiding the imposition of the risk on them would cause us only mild inconvenience.

4. Failing to deal with climate change constitutes not only unnecessarily creating opportunities for the planetary environment to become significantly

⁴ How to think about the imposition of risk is an exceedingly difficult question. One valuable collection is Paul Slovic, ed., *The Perception of Risk*, Risk, Society and Policy Series (London and Sterling, Va.: Earthscan Publications, 2000).

worse for humans [and other living things] but unnecessarily creating opportunities for it to become catastrophically worse.

Still, it is not merely that we make matters worse, and that we make matters bad for one or more generations who could have been secure from the dangers of climate change, and that we create opportunities for the environment to de-generate severely. Worse still, severe problems could become insoluble problems. Or not. It is, again, a question of the justifiability of avoidably imposing such risks of harm on defenseless others. Call this the problem of possible irreparable change -- runaway change feeding itself through positive feedbacks, such as added CO₂ leading to the thawing of tundra that leads to releases of vast amounts of methane or the thawing of Arctic and Greenland snow and ice that injects enough fresh water into the North Atlantic to disrupt the mechanism of the thermohaline circulation, which depends upon high salinity of the ocean water.⁵

I have my own personal possible runaway problem. Her name is Verity, and she is a Great Dane. The last time she ran away through an open front-gate my breathless wife, who had fallen far behind in the chase, found her miraculously on the other side of a major street in the parking lot of a supermarket with two nice ladies more or less sitting on her and looking at a loss about how to proceed from that point. Now when we leave the house we put Verity inside a fenced garden and lock the gate, and then also close the front-gate, so that there are two barriers between Verity and the wider world. This adds three or four minutes, at a minimum, to the time it takes to get out of the house, which is of course a major production anyway, but

⁵ Juliet Eilperin, "Debate on Climate Shifts to Issue of Irreparable Change: Some Experts on Global Warming Foresee 'Tipping Point' When It Is Too Late to Act," *Washington Post*, 29 January 2006, p. A1.

driving the probability of another escape way down seems worth the relatively small hassle. Verity is, in the great scheme of things, a minor matter, although she does not know this (and need not be told).

We know some important facts. First, a runaway climate is certainly possible in the future because it has in the past been actual. Just as I know Verity might run away in future because she has run away in the past (more than once), we know, for example, that rapid warming can lead to abrupt cooling, as it did in the Younger Dryas roughly 10,000 years ago and, as we know from ice cores, several times far earlier.⁶ Second, the process is not especially mysterious, and scientists are understanding it increasingly well. So there is no doubt that something devastating to humans could happen. The climate scientists are not Chicken Little -- this is not paranoia.

But much else is not known. What we do not know includes whether our actions will indeed cause a runaway, that is, precipitate changes that we can neither steer nor stop, and what the probability of our precipitating a runaway is. This is a paradigm case of uncertainty: the possibility is established, but the probability is incalculable. How should we think about what to do in such a case?

A third fact we do know is that the ones who need to worry are the young -- and their children, who may reap the whirlwind if we sow the wind. (This is not supposed to make you feel better.) Those who will suffer most,

⁶ See Richard B. Alley, *The Two-Mile Time Machine: Ice Cores, Abrupt Climate Change, and Our Future* (Princeton, N.J.: Princeton University Press, 2000); United States, National Academy of Sciences, National Research Council, Committee on Abrupt Climate Change, *Abrupt Climate Change: Inevitable Surprises* (Washington: National Academy Press, 2002), p. v and pp. 24-36; M. Vellinga and R.A. Wood, "Global Climatic Impacts of a Collapse of the Atlantic Thermohaline Circulation," *Climatic Change*, 54:3 (2002), pp. 251-67; and Hans Joachim Schnellhuber, et al., eds., *Avoiding Dangerous Climate Change* (Cambridge: Cambridge University Press, 2006).

if anyone does, will be people with absolutely no past role in causing the problem and with no other kind of responsibility for it (and other species with no capacity for morally responsible action).

This would put the kind of wrong done by the avoidable precipitation of runaway climate change, it seems to me, in the same general moral category as atrocities in war or the torture of bystanders: the infliction of harm on the innocent and the defenseless. This is far worse than simply neglecting to help, as wrong as that may sometimes be.

You may think that comparisons with attacking civilians or torturing innocents are extreme. I do not believe that terrorism, or CIA torture, can ever be justified, but at least the terrorists, for example, have what they mistakenly take to be great goals. Their ends would not justify their means even if their means actually led to their ends and were the only means that did. But I think one can be permitted a kind of grudging respect for sincere fanatics so dedicated to what they take to be, say, God's will, that they are ready to kill and to die for it, even while one condemns them and resists them wholeheartedly. But for what great purpose do we need to keep consuming so much fossil fuel? Because it takes less effort to turn up the thermostat than to go find a sweater? Because if a speeding SUV collides with a speeding pickup the SUV's occupants are likely to be less severely injured than if they were in a lighter vehicle? How about driving more slowly and defensively, consolidating errands into fewer trips, and -- much more important -- taxing heavy gas-guzzlers until they become too expensive for anyone to afford?

The fanatic terrorist inflicts destruction in the belief that this is the way to save civilization. The belief is mistaken, but at least the goal is worthy. Much of our GHG emissions serve worthy, even essential or

admirable, goals. But much of it results from thoughtlessness, laziness, and wastefulness; and much serves purposes that are opulent, frivolous, or pointless.⁷ Now I do not want to sound like a Puritan: perhaps we are all free to engage in a certain amount of frivolity and pointless joy-- at least if we do no serious harm to others. On the other hand, much commends a life of simplicity, although I will not pursue that point here.⁸ The main point here -- I am sure you are way ahead of me -- is that frivolous and pointless emissions, far from being harmless, may be storing up insoluble problems for the grandchildren and their grandchildren. There is low-emission frivolity and high-emission frivolity. I take no position here on low-emission frivolity. High-emission frivolity is another matter.

The overall picture, then, is that for the sake of benefits to ourselves that are, even if not forbidden, utterly insignificant, we inflicting on our grandchildren an unknown but substantial risk of significant harm.

Much more needs to be worked out before we can judge with any more precision how vigorous and urgent our efforts ought to be to reduce the probability of inflicting serious harm upon our own descendants. But my main purpose this afternoon, especially since we are at the beginning of our

⁷ A distinction between "survival emissions" and "luxury emissions" was advocated in Anil Agarwal and Sunita Narain, *Global Warming in an Unequal World: A Case of Environmental Colonialism* (New Delhi: Centre for Science and Environment, 1991), p. 5. I pursued their suggestion in Henry Shue, "Subsistence Emissions and Luxury Emissions," *Law & Policy*, 15:1 (January 1993), pp. 39-59.

⁸ For provocative reflections on the value of a simpler life, see Duane Elgin, *Voluntary Simplicity: Toward A Way of Life That Is Outwardly Simple, Inwardly Rich*, Rev. Ed. (New York: William Morrow, 1993); Wallace Kaufman, *Coming Out of the Woods: The Solitary Life of A Maverick Naturalist* (Cambridge, Mass.: Perseus Publishing, 2000); and David E. Shi, *The Simple Life: Plain Living and High Thinking in American Culture* (New York and Oxford: Oxford University Press, 1985).

conference, is to fill out more fully the sketch of the problem of climate change that shows that it is a different kind of problem from the problem conventionally assumed, even by those who acknowledge that there is a problem. I have been emphasizing two features about all: we are not called upon to offer help but to stop harming; and the harm toward which we are now building may well be a runaway climate, climate change that future generations will be helpless to control. I want to turn now to other decisions besides how vigorously and urgently we work to halt our damaging behavior.

B. Adaptation

Everything said so far has been about mitigation of climate change, that is, about eventually slowing and, for a start, ceasing to speed up, climate change. But the climate has already changed and will continue to change for the foreseeable future, because of the GHGs that have already accumulated in the atmosphere. Various people have argued in various ways for the general conclusion that those of us who have emitted the most GHG, and benefited the most from GHG emissions, ought, as a matter of distributive justice, to bear at least some of the costs of dealing with the effects of the emissions on those who are too poor to bear their own costs.⁹ Beyond all the other good arguments that have already been made, we can now see that compensatory justice as well requires that those of us inflicting harm

⁹ A splendid survey and analysis of the literature is Stephen M. Gardiner, "Ethics and Global Climate Change," *Ethics*, 114:3 (April 2004), pp. 555-600. I tried to establish that each of three independently persuasive arguments all led to this same general conclusion in Henry Shue, "Global Environment and International Inequality," *International Affairs*, 75:3 (1999), pp. 531-45; reprinted in *Environmental Ethics: What Really Matters, What Really Works*, edited by David Schmidtz and Elizabeth Willott (New York: Oxford University Press, 2001).

through the mechanisms of climate change make our victims whole. As already noted, we are probably causing distant generations who would not have suffered from climate change if we had controlled our emissions sooner to suffer from climate change, and we are probably causing generations who are already destined to suffer some bad effects of climate change to suffer worse effects. We, as the source of their difficulties, owe, as a matter of compensation for damage done, some assistance in dealing with those difficulties, especially if they are themselves incapable of paying for what needs to be done and most especially if part of the explanation for their inability to pay is itself the destructive effects of climate change. When one undermines the climate, one is undermining the conditions for agriculture, forestry, fishing, and other productive activities that depend on a stable environment of a particular kind. It would be unfair to the point of cruelty to disrupt the environmental bases for a group's economic activity and then insist that they not only supply their own needs but also provide the resources for adapting to the changed environment.

This conclusion does not depend upon the stronger of the two points I am emphasizing: that we may be engaged in inflicting disaster on future generations. It is enough for this conclusion simply that we are inflicting serious harm upon them, even if it is not a disaster. Of course if we inflict a non-disastrous harm that they cannot in fact handle, and then refuse to assist them in handling it, we may then succeed in transforming the ordinary harm that we had inflicted into what, given their inadequate resources, becomes a disaster after all. We will snatch catastrophe from the jaws of garden-variety harm.

C. Sovereignty

One of the more obnoxious statements that U.S. President George W. Bush keeps making about climate change is that if the United States chooses to do anything about the problem, it will certainly not proceed in any manner that harms the U.S. economy. This assertion rests on a tangle of confusions and errors, most of which I can only mention. First, it sounds as if it rests on a belief that Americans have a right to the level of prosperity that they now enjoy. I have myself long argued that human beings -- not Americans specifically, but all people -- have a right to a decent standard of living, but the United States contains pockets of opulence and luxury that are mind-boggling, along with much larger pockets of poverty. There is absolutely no reason to believe that no matter how much poverty there is inside the United States nor how serious global problems like climate change are, no one now soaking up luxuries may in any way be disturbed: "opulent life-style -- do not disturb." The *per capita* differences in responsibility for GHG emissions are gigantic. Climate change can be slowed only if total emissions decline. The standard of living of the poor, including the desperately poor in the United States, can, at present, improve only if their emissions increase. You tell me how we (1) shrink the total emissions while (2) increasing the emissions by the poor (3) without reducing the emissions of the richest. This requires a really new math, in which adding to a total makes it smaller.

On the other hand, there is lots of money to be made in dealing with climate change. Precisely because the arithmetic of GHG emissions is impossible, our economies must move rapidly away from the fossil fuels that produce the GHG. The creation of new technologies that solve human problems is one of the best ways of getting rich. As far as climate change is concerned, the U.S. does not need to shrink its economy. It needs to shrink

its GHG emissions. This means fuelling the economy with energy sources other than fossil fuels. People are already making money with energy alternatives, and much more remains to be made. If all that President Bush meant was that if we could choose between a profitable way of dealing with climate change and an unprofitable way, for the same result, and other things equal, no sane person would choose the unprofitable way. Of course unnecessary sacrifices ought to be avoided. But there are two fatal flaws lurking beneath the attitude that we do not intend to make any economic sacrifices. Each reflects one of the two features of the problem that I have been sketching.

First, individual liberty and national autonomy are each a good thing, and to a great extent individual persons and countries ought to be able to live as they choose. But plausible theories of liberty and autonomy always include as one limit some prohibition on the infliction of harm. It is fine for the United States to try to maintain a healthy economy, but not through practices that inflict severe harm on other people (or the environment) against which they are defenseless, as the vast and rapidly increasing American GHG emissions do. I have explained elsewhere why I think that the joint presence of the following four critical features removes a so-called domestic economic policy from any realm of autonomy in which a nation may simply do as it likes:

1. The policies contribute substantially to harm to people living outside the territory of the state that controls the policies.
2. The states that govern the territories in which the people harmed live are powerless to block this harm.
3. The harm is to a vital human interest like physical integrity (a physically sound body).

4. An alternative policy is available that would not harm any vital interest of anyone inside or outside the state that controls the choices among policies.¹⁰

It may not be immediately obvious how climate change threatens the physical integrity of people's bodies, but consider severe flooding or changes in weather that disrupt agriculture and deprive people of adequate food.

So, the first of the two features of climate change that I am stressing, the fact that it constitutes not a failure to volunteer help but a continuing and worsening infliction of harm, removes decisions about the relevant economic policies from any area of national discretion or autonomy.

This is true entirely apart from the second feature, the fact that the harm takes the form of creating a risk of a runaway climate. This is a matter not simply of harm but of extreme harm, and the implications seem to me to be correspondingly strong. As we have just noted, sovereignty does not, even in ordinary circumstances, protect activities that inflict harm upon the vital human interests of defenseless victims, irrespective of which side of national political boundaries the victims live on. Where the harms in question may not be only rights-violating harms but may potentially be harms of a runaway character -- harms that are uncontrollable and therefore of indeterminate dimensions -- they constitute the kind of potential catastrophe that can justify military intervention. Sovereignty cannot conceivably protect the potential infliction of catastrophe upon other human beings. (This is one of the assumptions underlying the argument that military intervention can be justified to eliminate weapons of mass

¹⁰ Henry Shue, "Eroding Sovereignty," in *The Morality of Nationalism*, ed. by Robert McKim and Jeff McMahan (New York: Oxford University Press, 1997), pp. 353-4.

destruction: weapons of mass destruction can potentially inflict catastrophe upon defenseless human beings across national political boundaries.)

I hasten to add that I cannot now see any circumstances in which a military intervention for the sake of preventing runaway climate change could, all things considered, be justified in the foreseeable future. That sovereignty does not protect activities that can generate catastrophe merely removes one powerful objection against intervention, namely that the intervention would violate sovereignty. But the simple fact that an intervention would not violate sovereignty does not show that it would, on the whole, be a good idea -- several other criteria, including a clear prospect of success in accomplishing its aims, would also need to be satisfied. So the point is not to endorse military interventions to prevent runaway climate change; we are a long way from that. Nevertheless, it is important to see that the creation of a danger of a potential catastrophe like runaway climate change is totally outside the perogatives of sovereignty. Therefore, assertions like those by President Bush that whatever the dangers for everyone else the United States will do as it pleases are completely off the wall.

D. Fairness in the Face of Unfairness

One of the most troubling questions in ethics is: what is a fair assignment of duties to those who are willing to do their duty in light of the fact that many other persons are failing to perform their fairly assigned duties? Stage one: consider some problem for which it is clear which people are in the total population of people who bear some duty toward that problem, and then work out a fair assignment among that population of people who are responsible the duties that need to be performed by each in order to deal with the problem in question. Perhaps the young fight the wars, and the old

pay the bill; or perhaps the old should have to fight their wars themselves. Whatever the right answer is to how to assign the relevant duties, we figure it out and make the initial assignment. Then, however, it will in fact turn out that some people will not perform their duties, however fair the assignment. Now what do we do in stage two? The two extremes are clear. At one extreme, we say: the initial assignment of duties was fair; to increase anyone's duty because others failed to perform their duty is unfair to those willing to do their duty as originally specified. We are in effect forcing those who behave responsibly to clean up after the irresponsible. Why should the burdens on the responsible be increased to make up for the irresponsible, when, by hypothesis, the original assignment was fair. The increased burden seems obviously unfair.

At the other extreme we say the following: the fair division of the duties was aimed to solve whatever the problem was. If the division of moral labor was calculated correctly, then the problem would be solved as long as each did his or her duty. But since some people are not doing their duty, the problem will not be solved unless someone picks up the balls dropped by the irresponsible. The full performance of only some of the assignments will not complete the task because, by hypothesis, the original assignment was what was needed to accomplish the job. If the job is not accomplished, then whatever was the purpose of the whole exercise will not be accomplished and whichever people needed the job to be done will suffer. It does seem unfair to the responsible if they have to do more than their own share, but it seems even more unfair to the intended beneficiaries of the project as a whole that it should fail to provide them what they needed.

Now although one can see various possible moves to make, this is a difficult issue, and I do not have a general suggestion about how to solve

the generic problem. I simply want to note the implications of one of the understandings we have reached about climate change. This time the relevant understanding is the fact that a catastrophe may be in the process of being inflicted on our grandchildren or other future generations. This process is occurring only because some people are not carrying their fair share of the burden of mitigation; much of the world would say that the primary culprit is the U.S. federal government, although some American cities, states, and regional compacts of states are taking imaginative and courageous measures, far superior to the U.S. federal government's pitiful programs.¹¹ Whoever may be most at fault, and be the most shameless free-riders on the efforts of other responsible actors, the fact that what needs to be done is to head off a potential disaster seems to me to mean that, whatever the merits, in general, of the complaint that "I already did my fair share and it is not reasonable to expect me to do more because others did not do their fair share," it loses much of its force in this situation, which is an urgent, possibly emergency situation. It is difficult to overstate the moral significance of fairness, which, I take it, is a bed-rock moral consideration, never to be lightly overridden. But if there is ever a time when people can reasonably be asked to carry an unfair burden, surely it is when this is the only way to prevent disaster. The disaster could be prevented if everyone did his or her fair share, but in fact some people will not do their share. The disaster will, then, not be prevented unless enough

¹¹ See, for example, the Regional Greenhouse Gas Initiative of seven northeastern states, the first mandatory cap-and-trade regime in the U.S., at <<http://www.rggi.org/index.htm>>; and Felicity Barringer, "Officials Reach California Deal to Cut Emissions," *New York Times*, 31 August 2006 (mandatory cuts in carbon emissions of 25% by 2020).

people carry unfair loads to make up for the people who will not in fact carry fair loads.

There is much else to be said, of course. Above all, if those who are unwilling to do their fair share can be coerced into doing it, this is much to be preferred to over-burdening the willing. There is no better case for coercion than the situation in which if all are required to do the share that they ought to do anyway, no one need do more and disaster will be averted. This means specifically that since the U.S. federal government is the world's leading shirker of its duties toward climate change, it ought to be put under the most effective possible pressures. Unfortunately, I am not sure anyone has effective ways of pressuring the U.S. government -- it is not easy to pressure governments with massive military might and eagerness to use it. But we should be imaginative and look for creative ways, and hope that others will as well. At the meeting of the parties to the Kyoto Protocol in Montreal in December 2005, the petulant walk-out by the representatives of the U.S. executive branch, as distinguished from the U.S. Congressional delegation who managed to behave themselves, was an embarrassing failure. One can hope that the solidarity of most of the rest of the world, apart from incorrigible obstructionists like the government of Saudi Arabia, will isolate and shame the U.S. federal executive into following the progressive lead of the state of California and the northeast regional states. But until the Feds come back to reality, as a result of pressure or on their own accord, others need to do more of what they can to make up for the abject failure of the U.S. political system at the national level.

Henry Shue, Oxford, 9/12/06